Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

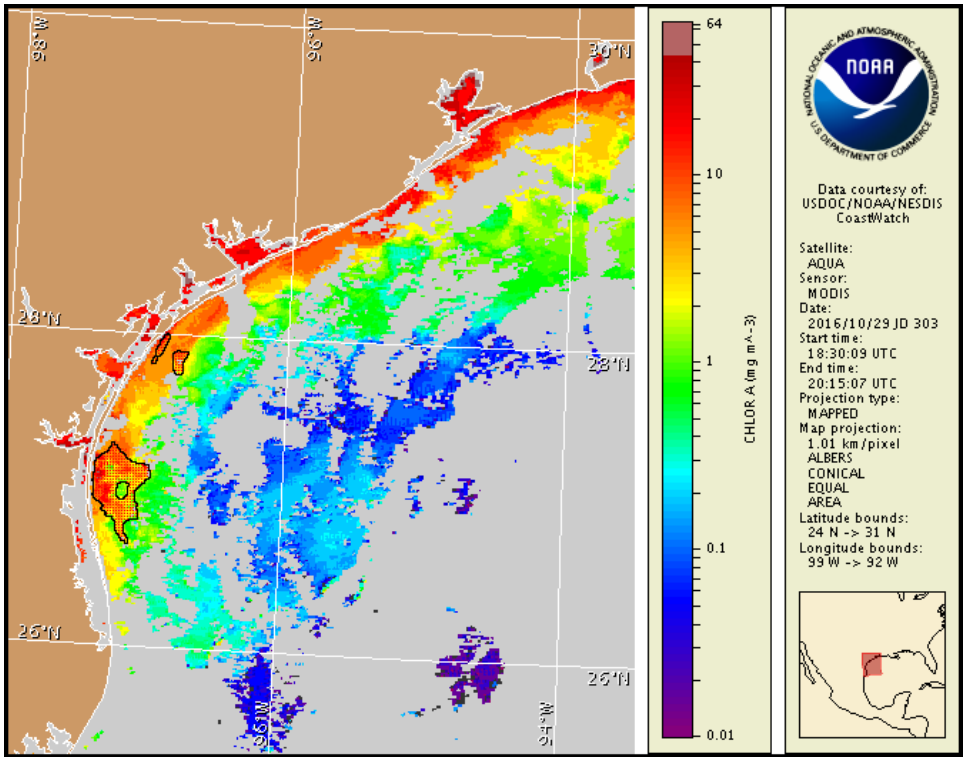
Monday, 31 October 2016

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, October 27, 2016



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from October 21 to 28: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/hab_publication/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Karenia brevis (commonly known as Texas red tide) ranges from not present to low concentrations along the Texas coast in the Aransas Pass to Padre Island National Seashore regions. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Monday, October 31 through Thursday, November 3 is listed below:

County Region: Forecast (Duration)
Bay region-Corpus Christi Bay: Low (M-Th)
Bay region-Upper Laguna Madre: Low (M-Th)
Aransas Pass to PINS: Low (M-Th)
All Other Texas Regions: None expected (M-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations.

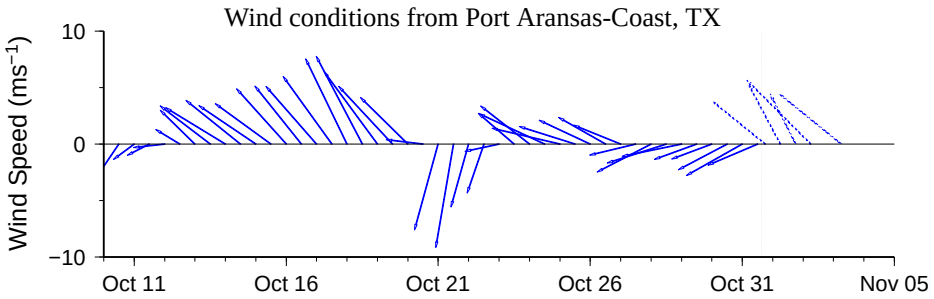
Analysis

Karenia brevis concentrations range between 'not present' and 'low' along the Texas coast from Aransas Pass to the Padre Island National Seashore (PINS) region (TPWD; 10/27-31). In the Aransas Pass to Padre Island National Seashore (PINS) region, sampling from the Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, indicates 'background' to 'low a' *Karenia sp.* concentrations, but preliminary analysis indicated that these could be primarily *K. mikimotoi* (TAMU; 10/27-31). No new samples have been received from the Corpus Christi Bay or Upper Laguna Madre regions, and no impacts have been reported from the area since 10/21 (TPWD). Detailed sample information and a summary of impacts can be obtained through Texas Parks and Wildlife Department at: http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml. For information on area shellfish restrictions, contact the Texas Department of State Health Services.

Recent MODIS Aqua ensemble imagery (10/29; shown left) is partially obscured by clouds along- and offshore from Galveston Island to south of Mansfield Pass. Patches of elevated to very high chlorophyll (2 to >20μg/L) with the optical characteristics of *K. brevis* are visible along- and offshore the San Jose Island and PINS regions. Continued sampling in these areas is recommended. Patches of elevated to very high chlorophyll (2 to >20μg/L) with the optical characteristics of *K. brevis* visible elsewhere along the Texas coast are not necessarily indicative of the presence of *K. brevis* and may be due to the resuspension of benthic chlorophyll and sediments along the coast.

Forecast models based on predicted near-surface currents indicate a maximum transport of 60 km south from the Port Aransas region and 50 km south from PINS Mile Marker #15 from October 29 to November 3.

Kavanaugh, Yang

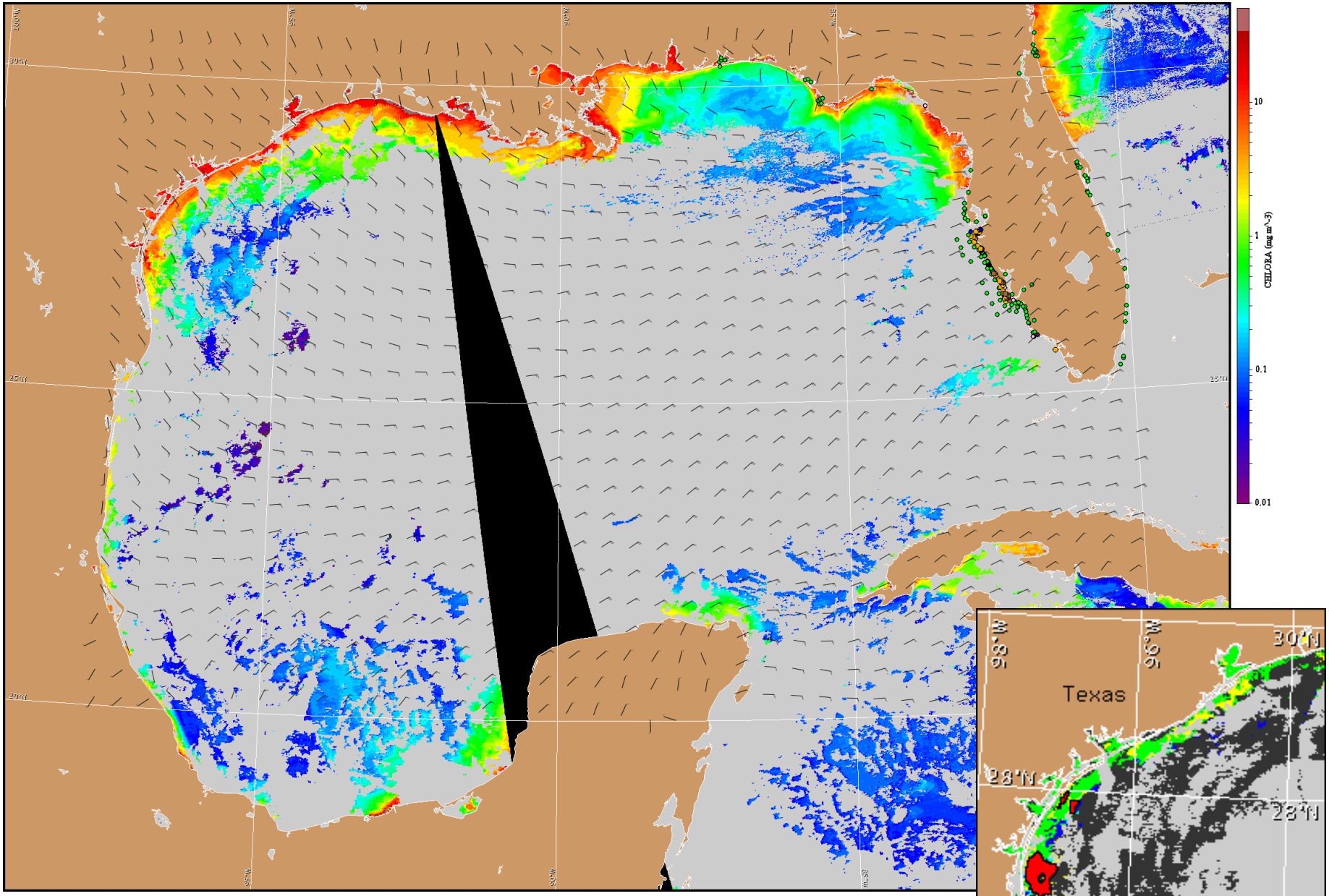


Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

Wind Analysis

Baffin Bay to Port Aransas: East to southeast winds (5-15kn, 3-8m/s) today through Thursday night.

Port Mansfield to Rio Grande: East to southeast winds (7-15kn, 4-8m/s) today through Thursday night.



Satellite chlorophyll image and forecast winds for November 1, 2016 06Z with points representing cell concentration sampling data from October 21 to 28: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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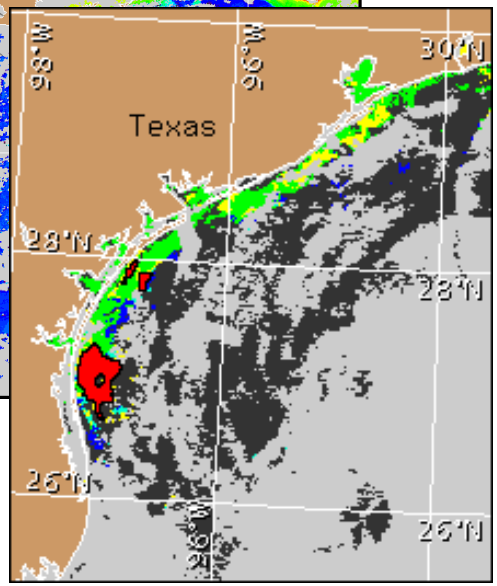

Verified and suspected HAB areas shown in red. Other areas with *K. brevis* optical characteristics shown in yellow (see p. 1 analysis for interpretation).